

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action of May 10, 2007, the Examiner rejected claim 1, under 35 U.S.C. §103(a) as allegedly being unpatentable over Nishida '680 (U.S. Patent No. 4,974,680) in view of Kawasaki'730 (U.S. Patent No. 5,782,730); and rejected claim 3, under 35 U.S.C. §103(a), as allegedly being unpatentable over Nishida '680 and Kawasaki'730 and further in view of Nagatsuka '426 (U.S. Patent No. 5,933,426).

By this Amendment, claim 1 has been amended to provide a clearer presentation of the claimed subject matter. Applicants submit that no new matter has been introduced.

Insofar as the §103(a) rejections are still deemed relevant in view of the claim changes, Applicants traverse these rejections for the following reasons:

I. Prior Art Rejections Under §103(a).

As noted above, independent claim 1 is directed to paper-like material conveying apparatus and positively recites, *inter alia*, that the driven roller includes a first and second layer and that the *first layer is configured with a coefficient of dynamic friction of more than 0.7* between the first layer and paper-like materials *to limit a relative velocity difference between the first layer and paper-like materials to less than 200 mm/s*. Claim 1 also positively recites that the *second layer is configured with a thickness that is more than 1.8 times of the most thick paper-like material*. Such features are amply supported by the embodiments disclosed throughout the written description.

Applicants respectfully submit that, despite the Examiner's contentions, none of the asserted references, whether taken alone or in reasonable combination, teach or suggest each and every element of claim 1, including the features identified above. Applicants further submit that the Examiner's assertions that the claimed limitations of the first and second layers are merely "expressions relating to the apparatus to contents thereof during an intended operation" are woefully misguided. (*See*, Office Action: page 3).

In particular, MPEP §2115 is directed to the prevention of merely claiming an article operated by a machine to achieve patentability. Indeed, in the seminal case, *In re Young*, 25

USPQ 69 (CCPA 1935), the Court addressed a limitation in an apparatus claim that recited “concrete reinforced structures with longitudinal members connected by cross bars supported by suitable chairs on the said palette.” The Court held that the mere inclusion of the article formed within the body of the claim did not, *without more*, make the claim patentable.

The present claims are absolutely distinguishable from these facts as the limitations clearly provide “more” than just the mere inclusion of the article. Namely, the present claims contain limitations that are specifically directed to the *structural attributes and construction of the apparatus elements* themselves. For example, claim 1 positively recites that the driven roller includes a first and second layer and that the *first layer is configured with a coefficient of dynamic friction of more than 0.7* between the first layer and paper-like materials *to limit a relative velocity difference between the first layer and paper-like materials to less than 200 mm/s*. Claim 1 also positively recites that the *second layer is configured with a thickness that is more than 1.8 times of the most thick paper-like material*. Clearly, these limitations define the structure of the driven roller layers.

These structural limitations are also supported by the written description, which states that in conventional apparatuses, the relative high velocity of heavy postal matters may cause conveying jams. (*See*, Specification: page 3, lines 5-16). To this end, the disclosed embodiments provide that, to provide satisfactory conveyance performance and reduce the possibility of jams, the thickness **t2** of sponge **22** should be 1.8 times of the maximum thickness of postal matter, the thickness **t1** of rubber **21** should be 1/2 of the thickness **t2** of sponge **22**, the hardness of sponge **22** should be below 40, and that the rubber material should have a coefficient of dynamic friction becomes 0.7 or more at the relative velocity difference below 200 mm/s. (*See*, Specification: page 17, lines 16-20; page 19, lines 6-9).

For these reasons, Applicants submit that these claimed limitations are not directed to the article of the apparatus, but specifically define the structure of the apparatus elements. As, such, these limitations should be accorded their due patentable weight.

With this said, Applicants submit that none of the asserted references teach or suggest each and every element of claim 1, including the features identified above. In particular, Nishida ‘680 describes a sheet feeding mechanism with a bail roller **20** with a double structure made up of an outer layer **23** and an inner layer **24**, as shown in Fig. 2A. (Nishida ‘680: col. 2, lines 22-29.) The outer layer **23** is formed from engineering plastics such as

polyacetal, nylon, ABS, or the like. (Nishida '680: col. 2, lines 34-36.) The outer layer 23 preferably is made from polyacetal with a friction coefficient in the range of 0.3 to 0.5. (Nishida '680: col. 2, lines 42-44.) The inner core 24 is formed of an elastically deformable material such as urethane foam, soft rubber, or the like. (Nishida '680: col. 2, lines 53-56.) Preferably, the inner core 24 is made of urethane foam with a compression set at 1.7% to 4.4%. (Nishida '680: col. 2, lines 55-61.) The ratio of the thickness of the inner core 24 to the outer layer 23 is not limited to any specific value. (Nishida '680: col. 2, lines 65-68.)

There is, however, nothing in Nishida '680 that remotely teaches that the driven roller *first layer is configured with a coefficient of dynamic friction of more than 0.7* between the first layer and paper-like materials *to limit a relative velocity difference between the first layer and paper-like materials to less than 200 mm/s*, as required by claim 1. Nor is there anything in Nishida '680 that suggests that the *second layer is configured with a thickness that is more than 1.8 times of the most thick paper-like material*, as also required by claim 1.

Moreover, Applicants submit that the remaining asserted references, Kawasaki '730 and Nagatsuka '426, do nothing to cure the deficiencies of Nishida '680 noted above and fail in their own right to teach the combination of elements of claim 1. That is, Kawasaki '730 describes a pressure roller 1 that comprises a metal core 2, an elastic layer 3 made of silicone rubber, and a top layer 4 covering the elastic layer 3 and made of a fluororesin having a coefficient of dynamic friction. (Kawasaki '730: col. 3, lines 1-5.) Coefficients of dynamic friction for the fluororesin top layer 4 are shown in Tables 2-3 and range between 0.15 and 0.40. (Kawasaki '730: col. 3, lines 18-20, and at Tables 2 and 3.) As discussed in Kawasaki '730, the coefficient of friction of 0.25 or more is preferred to reduce the occurrence of image failure. (Kawasaki '730: col. 5, lines 31-41, and also at Tables 4 and 5.) With respect to the relative thicknesses of the top layer 4 and the elastic layer 3, Kawasaki '730 states that the evaluated pressure rollers had an outer diameter of 15.8 mm, a thickness of the silicone rubber layer (the elastic layer 3) of 3 mm, and a thickness of the fluororesin top layer 4 of 50 μm . (Kawasaki '730: col. 5, lines 51-54.)

Much like Nishida '680, Kawasaki '730 fails to teach or suggest that the driven roller *first layer is configured with a coefficient of dynamic friction of more than 0.7* between the first layer and paper-like materials *to limit a relative velocity difference between the first layer and paper-like materials to less than 200 mm/s*, as required by claim 1. Nor is there

anything in Kawasaki '730 that suggests that the *second layer is configured with a thickness that is more than 1.8 times of the most thick paper-like material*, as required by claim 1.

Applicants further submit that Nagatsuka '426 is similarly devoid of these limitations. Thus, for at least these reasons, Applicants submit that none of the asserted references are capable of rendering claim 1 unpatentable. As such, claim 1 is clearly patentable. And because claim 3 depends from claim 1, claim 3 is patentable at least by virtue of dependency as well as for its additional recitations.

II. Conclusion.

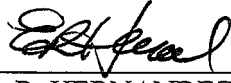
All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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